WESTON CLAMP VOLT-AMMETER

MODEL 633—TYPE VA-1

The popular Weston Model 633, widely used for many years as a Clamp-Ammeter, is now available either as a Clamp-Ammeter for current measurements only or as a combination Clamp Volt-Ammeter for the measurement of amperes and volts. These versatile service instruments provide the user with a dependable time and money saving maintenance tool.

Safe and easy to use, the Clamp Volt-Ammeter combines in one instrument 3 a-c voltage ranges and 5 a-c current ranges. It is equipped with an adjustable pointer stop for the measurement of motor-starting currents. Providing coverage of the voltages and current most frequently encountered in industrial and utility service work, an ideal maintenance tool for on-the-job testing.

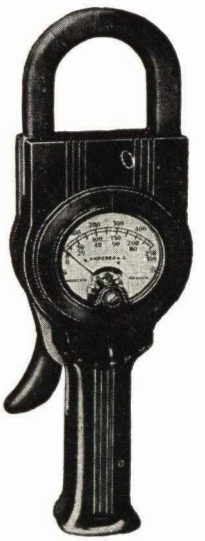
One pair of 5 foot insulated flexible leads are supplied with Type VA-1. Designed for either glove or bare hand use. Test clips are heavy rubber shielded.

Range: 1000/250/100/25/10 amperes a-c. 700/350/175 volts a-c.

Price, Model **633** Type VA-1 Clamp Volt-Ammeter (Incl. Potential Leads)....each **$110.00**
Leather Carrying Case .....each **13.50**

WESTON CLAMP-AMMETER

MODEL 633—TYPES A-1, A-2, A-3

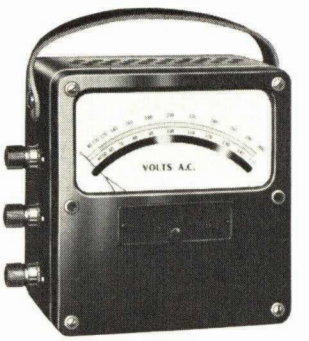


The Model 633 Clamp-Ammeter is of the same basic design as the Clamp-Volt-Ammeter except it is not provided with the voltage features or regularly equipped with the adjustable pointer stop. Current measurement at a distance from the clamping jaws can be conveniently made when used in conjunction with Model 9958 50-ft. Extension Cable. This is accomplished by removing the indicating instrument from the clamp-ammeter and inserting it in the receptacle provided on one end of the extension cable. The plug attached to the other end of the cable is then inserted in the clamp-ammeter. Model 9958 Extension Cable cannot be used with Model 633 Type VA-1 Clamp Volt-Ammeter.

Price, Model **633** Clamp-Ammeter—
Type A-1 500/250/100/50/25/10 amps. a-c **$100.00**
Type A-2 1000/500/250/100/25/10 amps. a-c **100.00**
Type A-3 2000/1000/500/250/100/50 amps. a-c **110.00**
Model 9958 50-ft. Extension Cable, Plug and Receptacle **72.00**
Leather Carrying Case..... **13.50**

WESTON TESTING INSTRUMENTS

MODEL 433 PORTABLE A.C. INSTRUMENTS



Shielded from external magnetic fields. Moving iron type instruments contained in bakelite cases with leather carrying handles.

Instruments can be left in circuit continuously without overheating, therefore no contact key is used.

Dimensions: 3¼x5 x5¼ inches; scale length, 4.04 inches. Weight 2½ pounds. Accurate within ¾ or 1%.

Voltmeters

Self-contained for ranges shown. Higher ranges obtained by using multipliers or Model 311 potential transformer in conjunction with a 150 volt instrument; for use on frequencies up to 125 cycles per second.

Range	Res. Ohms	Scale Div.	Price Each	Range	Res. Ohms	Scale Div.	Price Each
10	80	100	**$54.00**	30/15	336/168	150	**$61.50**
15	168	150	**54.00**	60/30	850/425	150	**61.50**
30	425	150	**54.00**	150/15*	5300/530	150	**62.25**
50	1140	100	**54.00**	150/75	5300/2680	150	**62.25**
75	2680	150	**54.00**	300/150	22000/11000	150	**64.50**
125	4400	125	**54.75**	450/300/	33000/22000/		
150	5300	150	**54.75**	150	11000	150	**83.25**
250	18200	125	**56.25**	600/300/	44000/22000/		
300	22000	150	**57.00**	150	11000	150	**85.50**
10/5	40/20	100	**61.50**	750/300/	55000/22000/		
20/10	160/80	100	**61.50**	150	11000	150	**87.75**

*The low range of this combination has an accuracy of 3 per cent.

Leather case, **$13.50**.

Ammeters

For use on frequencies up to 500 cycles per second, except triple range ammeters which have self-contained transformers limiting use to a.c. with frequencies up to 125 cycles.

Range	Approx. Res. Ohms	Inductance Henries	Scale Divs.	Price Each
1	0.48	0.00035	100	**$52.50**
1.5	0.20	0.000155	150	**52.50**
2	0.119	0.000085	100	**52.50**
3	0.053	0.000030	150	**52.50**
5	0.0197	0.0000135	100	**52.50**
10	0.007	0.0000029	100	**52.50**
15	0.0038	0.0000014	150	**58.50**
25	0.00155	0.00000062	125	**58.50**
30	0.00063	0.00000039	150	**58.50**
50	0.00038	0.00000013	100	**58.50**
2/1	0.12/0.48	.....	100	**67.50**
5/2.5	0.02/0.08	.....	100	**67.50**
10/5	0.0083/0.028	.....	100	**67.50**
20/10	0.004/0.0108	.....	100	**73.50**
3/1.5/0.75	.....	.....	150	**112.50**
5/2.5/1	.....	.....	100	**112.50**
10/5/1	.....	.....	100	**112.50**
10/5/2.5	.....	.....	100	**112.50**
15/7.5/1.5	.....	.....	150	**118.50**
20/5/2	.....	.....	100	**118.50**
30/7.5/3	.....	.....	150	**118.50**
50/20/5	.....	.....	100	**118.50**
50/20/10	.....	.....	100	**118.50**

Triple-range ammeters operate through self-contained multi-range transformers, therefore they cannot be used on direct current.

Leather case for single-, double- or triple-range ammeters, **$13.50**.

Milliammeters

Range	Res. Ohms	Scale Div.	Price Each	Range	Res. Ohms	Scale Div.	Price Each
15	1850	150	**$52.50**	250	6.0	125	**$52.50**
30	460	150	**52.50**	300	3.85	150	**52.50**
75	78	150	**52.50**	400	2.5	80	**52.50**
100	49	100	**52.50**	500	2.0	100	**52.50**
150	13	150	**52.50**	600	1.13	120	**52.50**
200	8.75	100	**52.50**	750	0.75	150	**52.50**

Milliammeters are available in double range combinations. Leather case for milliammeter, **$13.50**.

WESTON TESTING INSTRUMENTS

MODEL 564 TYPE 3-C VOLT-OHMMETER

Four Voltage Ranges: 0-3; 0-30; 0-300; 0-600 — all at 1000 ohms per volt.

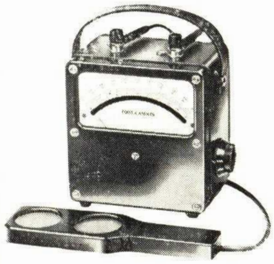
Four Resistance Ranges: 0-1000; 0-10,000; 0-100,000; 0-1,000,000 ohms, full scale.

A self-contained battery supplies the necessary potential. Changes in battery potential are compensated for by short-circuiting the resistance pin jacks of any range and adjusting pointer to zero ohms by turning the battery adjustment knob.

Voltage ranges are brought out to pin jacks. A toggle switch connects meter in circuit as a voltmeter, or ohmmeter. A pair of test leads is furnished. Dimensions: $5\frac{33}{64}$x$3\frac{45}{64}$x$2\frac{9}{16}$ inches.

Price, Model **564** Type 3-C.................each **$54.00**

MODEL 756 ILLUMINATION METER



A portable instrument for light measurements requiring a high degree of accuracy over broad range of light values. Ideal for research and routine work or as a master instrument for checking other light measuring instruments and devices. All types of commercial lighting can be read directly — no correction factors are necessary. Cosine filters are available to correct for the direction of light. Instruments equipped with *Viscor and Cosine correcting filters have the same response to light as the human eye, both as to color of the light and direction of it. The unusually wide mirror form of scale provides for accurate readings and eliminates parallax errors. Calibration is by direct comparison to accurate reference standard lamps.

Ranges are selected by a convenient range changing switch. The light target housing two **Photronic cells equipped with *Viscor or *Viscor and Cosine filters, with 6 foot extension cable connects to the color coded binding posts of the instrument. Additional cable may be added.

For measuring extremely low light intensities and for general lighting surveys Model 756 is available with ranges 6/12/60/120/600 foot candles. Other ranges available. Model 756 including the separable light target is regularly supplied in a sturdy leather carrying case with a compartment for the target light.

Range	Price
0-20/100/500 foot-candles incl. *Viscor and Cosine filters and leather carrying case	**$257.50**
0-20/50/500 foot-candles (*Viscor type) including leather carrying case..............	**249.00**
6/12/60/120/600 foot candles (*Viscor type) including leather case....................	**301.50**

MODEL 756 SUNLIGHT ILLUMINATION METER

This instrument incorporates ranges 0-100/1,000/10,000 foot candles and requires only one **Photronic cell equipped with quartz filter so that the ultra-violet portion of the spectrum is included in the light measured. The extra high range coverage is ideally suited for making comparisons of natural sunlight intensities, or for any survey where high light intensities must be measured with a high degree of accuracy.

Range	Price
0-100/1,000/10,000 foot-candles (Quartz filter) including leather case..................	**$243.00**

WESTON TESTING INSTRUMENTS

MODEL 614 FOOT-CANDLE METER

With this meter any user of light can analyze lighting conditions and determine the correct illumination for each particular and individual purpose.

This instrument is calibrated directly in terms of tungsten filament standard lamps. Requires no batteries, voltage or lamps; has indefinite life with permanent calibration. The **Photronic photo-electric cell or light target is hinged so that it can be lifted from the horizontal to the vertical position.

The instrument is always ready for instant use. To measure illumination on a horizontal plane it is only necessary to open cover, hold instrument in horizontal position with the cell or light target lying in its socket and then take the readings. The toggle switch simplifies switching to any of the 3 meter ranges so as to give a good scale deflection for any value of light intensity within maximum range of instrument. Cosine filters are available to correct for the direction of light. Instruments equipped with *Viscor and Cosine correcting filters have the same response to light as the human eye, both as to color of the light and the direction of it.

Housed in black bakelite carrying case with a hinged cover and strap handle. Length case, $7\frac{3}{8}$ inches; height, $3\frac{3}{8}$ inches; width, $2\frac{1}{4}$ inches. Weight 1.8 pounds.

Price, Model **614**
0-60/120/600 ft. candles (with *Viscor-filter) **$75.00**
0-100/250/500 ft. candles, *Viscor and Cosine correcting filters, complete............ **78.00**

MODEL 697 VOLT-OHM-MILLIAMMETER

Model 697 combines a selection of a-c and d-c voltage, direct current and resistance ranges in a light weight, pocket size case.

Ranges have been carefully selected to cover the majority of maintenance testing and inspection needs. The indicating instrument is a full sized $3\frac{1}{4}$-inch meter. All a-c and d-c ranges have a sensitivity of 1000 ohms per volt. A self-contained battery provides potentials for ohm ranges. Test leads furnished. Descriptive literature available upon request. Dimensions: $5\frac{9}{16}$x$3\frac{3}{4}$x$3\frac{9}{16}$ in. Approximate weight $1\frac{3}{4}$ lbs.

Volts	Milliamperes	Ohms	
A-C & D-C	D-C	Full Scale	Center Scale
750	75	500,000	3,500
150	7.5	5,000	35
15			
7.5			

Price, Model **697** Volt-Ohm-Milliammeter....**$49.50**
Carrying Case **9.00**

*VISCOR—A registered trademark designating the visual correction filter available only in Weston Photronic Cells and Illumination Meters. Instruments equipped with Viscor Filters, measure correctly the visual intensity of any lighting source.

**PHOTRONIC—A registered trademark.

WESTON TESTING INSTRUMENTS

MODEL 330 PORTABLE A.C. VOLTMETER

Iron core dynamometer type. Accurate within 1 percent at 60 cycles, 2 percent at 25 to 100 cycles. Contained in a mottled red and black bakelite case with hinged cover and leather carrying handle.

Low ranges, combined with an unusually high sensitivity, are possible in this type voltmeter. For use wherever current drain caused by instrument must be limited to a low value. Although the high sensitivities of the copper-oxide type voltmeter are not possible with this meter, nevertheless its accuracy is unaffected by wave form and variations in frequencies over relatively wide limits.

Ranges are changed by use of a self-contained range selector switch. To assure accurate readings and eliminate parallax errors, a knife-edge pointer and mirror scale are used.

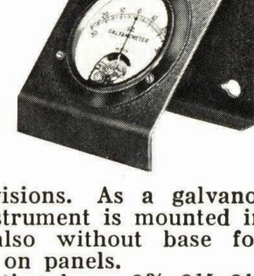
Dimensions: 3 15/16x4⅞x1 13/16 inches; scale length, 2.67 inches. Weight, 1¾ pounds.

Ranges	Sensitivity Ohms per Volt	Scale Div.	Price Each
125/25/12.5	21	50	**$75.75**
250/25/5	42	50	**99.75**
**125/25/5/1	21	50	**83.25**
150/30/15/1.5	21	75	**83.25**
150/50/10/1	21	50	**83.25**

**Conforms with A.R.A. specifications.
Leather case, **$7.50**.

WESTON STUDENT GALVANOMETERS

MODEL 375 STUDENT GALVANOMETERS



For student use in school laboratories and wherever a d.c. galvanometer of extreme sensitivity is not essential. Permanent magnet moving coil type. Has a sensitivity of approximately 22 microamperes per division; resistance, about 23 ohms. Scale is zero-center with 60 divisions; calibrated 30-0-30 in millimeter divisions. As a galvanometer for portable use instrument is mounted in 45 degree angle base; also without base for mounting in apparatus or on panels.

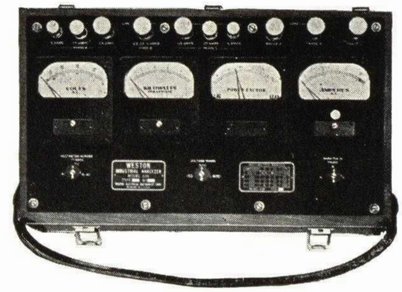
Dimensions: with mounting base, 3¾x3 15/32x3 17/32 inches; without mounting base—case, 3¼ inches; body, 2 9/16 inches. Scale length, 2.36 inches.

Price, Model **375** With Mounting Base.......... **$18.75**

If desired without mounting base, deduct **$4.50** from price shown.

WESTON TESTING INSTRUMENTS

MODEL 639—TYPE 2 INDUSTRIAL ANALYZER



The ideal test equipment for public utility field service men, plant maintenance and efficiency men, electrical contractors and particularly those doing alternating current testing, checking or installation work. It is a self-contained unit, designed to analyze loads by measuring current, voltage and power in single and polyphase circuits as well as power factor in 3-phase, 3-wire, balanced circuits. A thorough analysis of plant load conditions with the Model 639 quickly detects overloaded or underloaded motors, indicating that relocating transformers or interchanging motors will effect considerable savings. It combines in its strong oak carrying case four Weston Model 610 instruments; a voltmeter, wattmeter, power factor meter and ammeter. The ammeter is equipped with an adjustable pointer stop which allows the maximum value of starting currents to be quickly determined. The stop enables the operator to set the pointer at the anticipated value of the starting current. The proper setting is that point at which the pointer makes only a perceptible movement as the transient current passes. Ordinary portable ammeters, without the pointer stop feature, do not permit the accurate measurement of these starting currents.

Accuracy: for voltage and current readings, 1 percent of full scale deflection. For overall readings of Analyzer, 2 percent.

Only a few simple connections are necessary to place the Model 639 in circuit and the maze of interconnecting wires necessary when individual meters are used, is eliminated. Connection diagrams and all necessary operating instructions are contained on one card in the removable cover.

Has self-contained potential ranges of 150/300/-600 volts, current ranges of 5/25/125 amperes and corresponding wattage ranges. Higher ranges are possible by the use of potential and current transformers.

Power factor indications are for 3-phase, 3-wire balanced circuits only; .30 lag through unity to .80 lead.

On 220-volt 3-phase circuits the 5-ampere range will take care of loads up to 1 hp on the 2-kw. wattmeter scale; on the 25-ampere range up to 7½ hp on the 10-kw. scale; on the 125-ampere range up to 40 hp on the 50-kw. scale. At 440 or 550 volts the hp and kw. ranges are doubled.

A full technical description including connection diagrams is available upon request.

Dimensions: 18⅞ by 10⅞ by 6⅞ inches.

Approximate weight: 32 pounds.

Price, Model **639**—Type 2 Industrial Analyzer .... each **$630.00**

WESTON TESTING INSTRUMENTS

MODEL 785—TYPE 6 INDUSTRIAL CIRCUIT TESTER

Model 785 Circuit Tester is an ultra-sensitive, multi-range instrument which covers a broad range of electrical measurements. The wide spread use of electronic devices and sensitive relays for controlling industrial processes and for automatic inspection has created a need for a multi-purpose low current drain instrument. This test unit is designed specifically for these applications although its use is by no means limited to this field of measurement.

D-C Voltage—Measurements from 10 millivolts to 1000 volts (20,000 ohms per volt) in full scale ranges of: 1/10/50/200/500/1000 volts. Accurate within 3%. 2% up to 500 volts; 3% at 1000 volts.

A-C Voltage — Measurements from 0.1 to 750 volts (1000 ohms per volt) in full scale ranges of: 5/15/30/150/300/750 volts. Accurate within 3%.

D-C Current—Measurements from 0.5 microampere to 10 amperes, in full scale ranges of: 50 microamperes, 1/10/100 milliamperes, 1/10 amperes. Accurate within 2%. Instrument is calibrated so that 100 mv shunts can be used for ranges above 10 amperes. Prices of shunts on request.

A-C Current — Measurements from 10 milliamperes to 10 amperes, in full scale ranges of: .5/1/5/10 amperes. Higher ranges with external current transformers. Accurate within 3% on 60 cycles. Slightly less accuracy on 25 and 133 cycles.

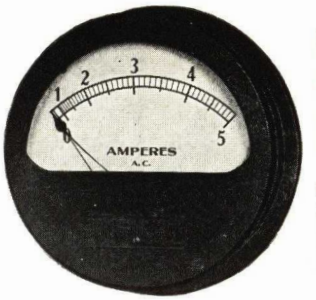
Resistance—Measurements from 0.5 ohms to 30 megohms in full scale ranges of: 3,000/30,000/300,000/3 meg. /30 meg. Center scale values are: 25/250/2,500/25,000/250,000 ohms. Self-contained batteries. Accurate within 2% of the linear arc length on any ohmmeter range.

Size and Weight—13x12½x5½ (34x32x14 cm.). Weight with batteries, oak case, etc.: 13½ lbs.

Model Model	Description	Price Each
785	In Oak Carrying Case	**$157.50**
785	In Steel Case for bench use	**127.50**

WESTON SWITCHBOARD INSTRUMENTS

MODEL 260 A.C. INSTRUMENTS



Accurate within 1 percent. Movable iron type; magnetically shielded. Surface type back connected, case of pressed steel, dull black finish. This instrument forms a part of a complete, matched line including voltmeters, ammeters, wattmeters, power factor meters, frequency meters and synchroscopes. Details furnished on request. Size of base, 7$\frac{11}{32}$ inches; projection from panel, 4$\frac{3}{32}$ inches; length of scale, 5.1 inches. Weight, 8 lbs.

Ammeters

Ammeters are for use on frequencies up to 500 cycles per second. Model 260 ammeter listed in one range only, 5 amperes; employed generally with current transformers.

Price, Model **260** Ammeter..... **$52.50**

Voltmeters

For use on frequencies up to 125 cycles per second. With external resistors for ranges above 300 volts.

Volts	Scale Div.	Price Each	Volts	Scale Div.	Price Each
150	30	**$56.25**	600	60	**$73.50**
250	25	**57.75**	750	75	**79.50**
300	30	**58.50**	------	----	----------

MODEL 610 SWITCHBOARD A.C. INSTRUMENTS

Identical in construction with Model 610 D.C. instruments, described above. Power consumption: Voltmeters on 115 volts, 2.5 watts; on 60 cycles, 2.5 volt-amperes. Ammeter on 5 amperes, 1.1 watts; on 60 cycles, 1.4 volt-amperes.

Size at base, 4x4½ inches; projection from panel, ⅞ inch; scale length, 3½ inches. Weight, 2 pounds.

Ammeter

For use on frequencies up to 500 cycles per second. Listed in one range only; employed generally with current transformers; price shown covers instruments for currents up to 10 amperes with scales figured to correspond to transformers with which employed.

Price, Model **610** A.C. Ammeter..... **$49.50**

Voltmeters

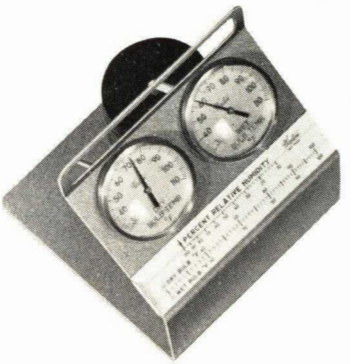
For use on frequencies up to 125 cycles per second. With external resistors for ranges above 300 volts. For the 750 volt range a type 12 resistance box mounted on studs at rear of instrument, is provided.

Volts	Scale Divs.	Price Each	Volts	Scale Divs.	Price Each
150	30	**$53.25**	300	30	**$55.50**

WESTON HUMIDITY INDICATOR

MODEL 2201 ALL-METAL HUMIDITY INDICATOR

For Laboratory and Industrial Production Control



This new easily read and versatile Weston Relative Humidity Indicator provides rapid and high-accuracy readings to meet the varied measuring requirements encountered in laboratory and industrial production control.

The dials of the Model 2201 indicates dry bulb and wet bulb temperatures; together they provide % relative humidity by means of the easy-to-use Slide Rule Calculator. With these three values many "determinations" may be made by direct reference or by reference to Psychromatic charts, tables and formulae of such air and comfort values as:

Dew point temperature— Total heat — Specific volume — Vapor pressure — Grains of Moisture/Cubic feet (Absolute Humidity) — Grains of Moisture/pound dry air (Absolute Humidity) — Comfort Zone Value in % — Effective Temperature — Etc.

Features of the Weston Humidity Indicator include:

All-Metal Construction: Minimizes breakage.

Large Open-Faced Dial: Easy to read.

Slide Rule Calculator: No arithmetic required, one movement of the slide rule produces % relative humidity reading.

Accuracy: Under ordinary conditions of temperature and humidity ±1% relative humidity, under rarely wet abnormally dry conditions within ±4%, under moist conditions ±2% relative humidity.

Wick: Wick on wet bulb may be removed or renewed without removing jar and jar may be removed without removing wick.

Supporting Stand: Clean, open and sturdy. It is at once a table type, a wall type or a shelf type.

Auxiliary Fan Attachment: Where more rapid humidity indications are required Model 2201 can be equipped with Model 9917 Auxiliary Fan attachment. Model 9917 consists of a small fan, driven by a small d-c motor, which receives its power from four standard 1½ volt flashlight cells, "D" size. An "ON" and "OFF" switch is provided. The whole unit is contained in an assembly which clamps on any Model 2201.

Price, Model **2201** Humidity Indicator ..... each **$30.00**

Price, Model **9917** Auxiliary Fan Attachment ..... each **15.00**

Approx. wt., 1¼ lbs., with fan, 2½ lbs. Approx. size, 5x4¼x6⅛ inches.

WESTON SIGHT METER

MODEL 703

This remarkable device is an adaptation of the famous Weston †Photronic photo-electric cell and is so simple that even a child can understand it.

The scale on the meter is not only scaled in foot-candles, but has literal indications of the minimum amount of light that is needed for seeing tasks.

It should take its place with the thermometer in the home, office, store, factory and school. It is indispensable for checking intensities of lighting installations. It checks and recommends proper standards of lighting for practically every type of factory work whereby increased production is realized. Cosine filters are available to correct for the direction of light. Instruments equipped with *Viscor and Cosine correcting filters have the same response to light as the human eye, both as to color of the light and the direction of it. Dimensions: 4⅝x2⅝x1$\frac{5}{16}$ inches. Approx. weight 10 oz.

Range		Price
0-100	Foot-Candles with *Viscor and Cosine Filters	**$42.00**
0-75	Foot-Candles	**27.00**
0-75	Foot-Candles with *Viscor Filter	**39.00**
	Multiplier disc (x10)	**1.25**
	Leather carrying case	**2.75**

*Viscor—A registered trademark designating the visual correction filter available only in Weston *Photronic Cells and Illumination Meters. Instruments equipped with Viscor filters measure correctly the visual intensity of any lighting source.

*Photronic-Registered trademark.